

AD-A123 371

19319A MLRS MISSILE NUMBERS BN-219 BN-193 BN-188 ROUND

1/1

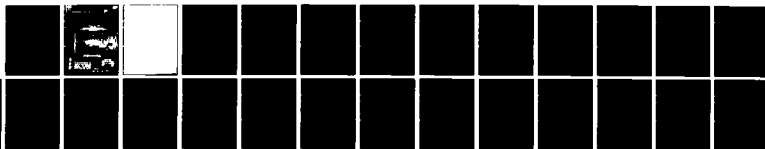
NUMBERS V-360/PQ-9. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER NOV 82

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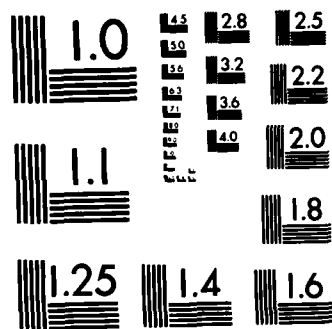
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AD A123371

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19319A MLRS, Missile Numbers BN-219, BN-193, BN-180, Round Numbers V-360/PQ-91, V-361/PQ-92, V-361/PQ-93 are presented in tabular form.		

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INTRODUCTION

➤ 19319A MLRS, Missile Numbers BN-219, BN-193 and BN-180, Round Numbers V-360/PQ-91, V-361/PQ-92 and V-362/PQ-93, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1500:13, 1500:19 and 1500:25 MST, 08 Nov 82. The scheduled launch times were 1515, 1515:04.5 and 1515:09 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface:

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air:

(1) Low level wind data were obtained from pilot-balloon observations, at:

SITE AND ALTITUDE

WSD 2km

DON 2km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

LC-37 1300 MST

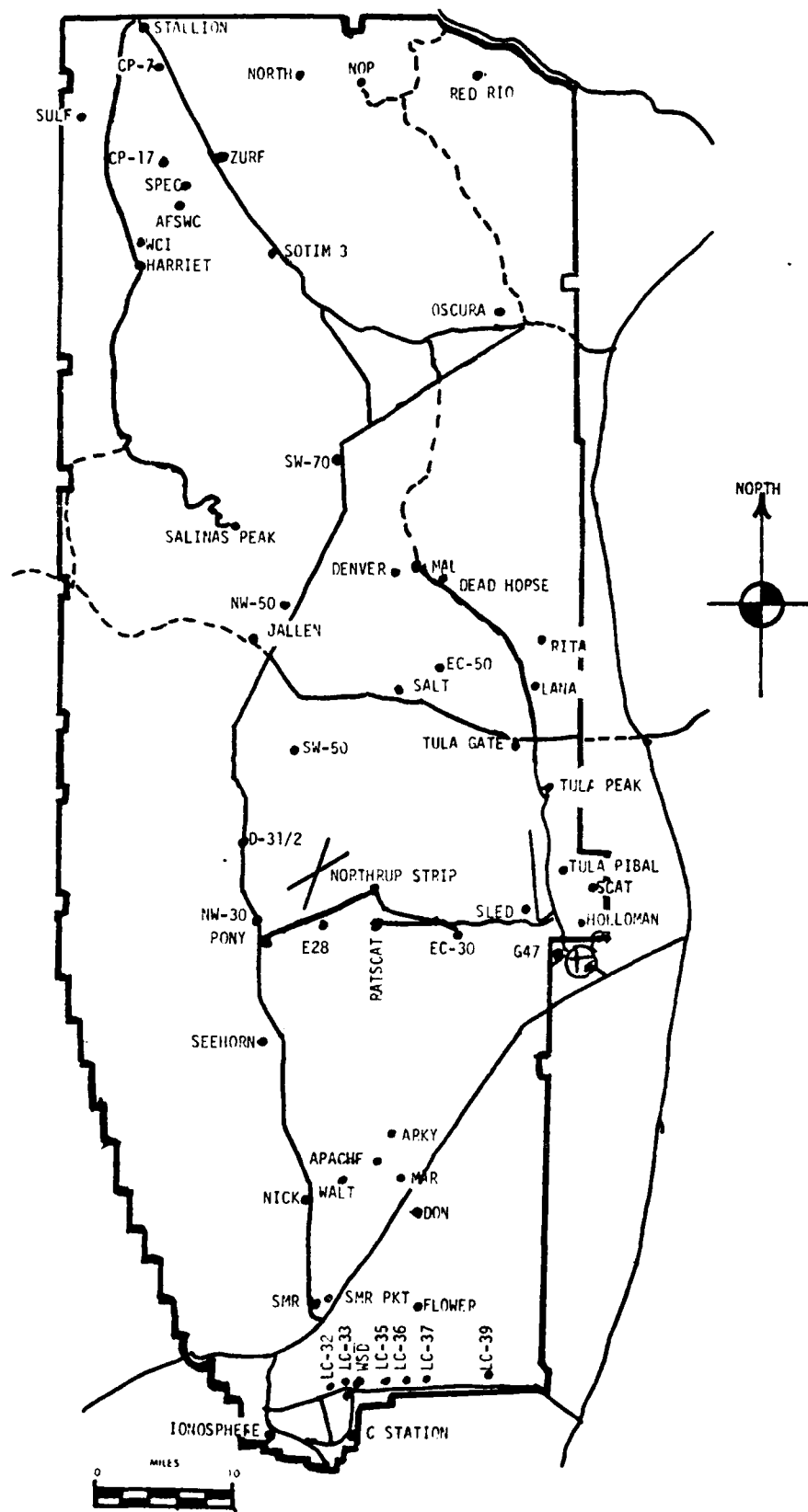
WSD 1300 MST

LC-37 1415 MST

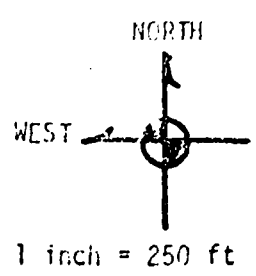
WSD 1500 MST

Accession For	
NEIS	<input checked="" type="checkbox"/>
DEIS	<input type="checkbox"/>
Unrecorded	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Special
A	

WSMR METEOROLOGICAL SITES



LC-33
Launch Area



Y136,500

LINE OF FIRE

NET
Tower

Y186,000

T-9 radar

Anemometer Pole #3

Anemometer Pole #2

L-579A

L-519A

L-351A

L-350A

Anemometer Pole #1

Y185,500

X485,000

X485,500

X486,000

Y185,000

L-600

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.29 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.5 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	118	10	T-30	117	08	T-30	126	11
T-20	118	09	T-20	107	08	T-20	117	10
T-10	117	10	T-10	106	09	T-10	115	11
T 0.0	112	09	T 0.0	115	09	T 0.0	117	12
T +10	112	12	T +10	116	09	T +10	126	13

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 52 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	114	08	T-30	118	10
T-20	126	11	T-20	117	13
T-10	134	11	T-10	119	13
T 0.0	133	10	T 0.0	123	11
T +10	133	07	T +10	116	10

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	126	10	T-30	113	10
T-20	127	12	T-20	116	10
T-10	136	12	T-10	125	12
T 0.0	136	11	T 0.0	125	13
T +10	131	12	T +10	120	10

1-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 08 Nov 82

SITE: WSD

TIME: 1500 MST

WSTM COORDINATES:

X= 488,852.29

Y 184,982.45

H 3,993.75

SITE: DON

TIME 1500 MST

WSTM COORDINATES:

X= 511,988.37

Y- 247,396.36

H 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	115	12
150	140	07
210	162	10
270	174	08
330	178	10
390	175	08
500	188	09
650	203	08
800	209	09
950	209	15
1150	213	19
1350	206	23
1550	209	28
1750	213	33
2000	222	38

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	140	03
150	126	11
210	127	12
270	130	11
330	134	10
390	139	09
500	150	07
650	185	06
800	220	08
950	229	11
1150	211	14
1350	202	16
1550	207	20
1750	214	25
2000	221	32

Data obtained from NIKE HERCULES

Radar Tracked pilot-balloon observation

AIMING AND T-TIME COMPUTER MET MESSAGES

08 Nov 82

LC-37 1300 MST	WSD 1300 MST
METCM1324063	METCM1324064
082000124874	082000122876
00320006 29230874	00338010 29350876
01323013 29150864	01354013 29270866
02400016 29080839	02411014 29070841
03388017 28810801	03394013 28740802
04374016 28380754	04373014 28290756
05366013 28000710	05350015 27840711
06347022 27560668	06336027 27520669
07335035 27140627	07368037 27230628
08370043 26870589	08386047 26880590
09386050 26500553	09390050 26420553
10418054 26290518	10418055 26220519
11421055 26100486	11419054 26000486
12422059 25590440	12422063 25540440

LC-37 1415 MST	WSD 1500 MST
METCM1324063	METCM1324064
082130124873	082200122875
00213006 29500873	00204012 29520875
01301008 29280863	01257013 29460865
02360011 29060838	02293012 29290840
03386015 28760800	03363008 28950802
04394012 28330753	04375018 28520755
05353016 27990709	05381032 28090711
06371029 27630667	06402038 27670669
07398038 27180627	07417037 27200629
08392046 26840588	08426039 26740590
09400045 26570552	09431044 26530554
10423042 26380518	10420042 26300519
11417044 26070485	11412046 25980486
12415052 25630439	12411061 25540440

STATION ALITTLE 4051.87 F.F.T. 15L
A NOV. 02 1300 HRS. 151
ASCENSION NO. 112

3120100112
LC-37

32.40175 LAT DEG
106.51232 LON DEG

TABLE 6

PRESSURE, COMPTONIC	ALTITUDE FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	WET-BULB CENTIGRADE	
874.4	4051.4	18.4	2.7	35.0
863.0	4419.9	17.8	-4.8	21.0
852.6	4759.2	16.7	-5.7	21.0
849.4	4864.4	17.6	-4.3	22.0
831.6	5457.3	17.0	-5.5	21.0
801.0	6501.0	14.4	-3.9	24.0
751.6	8251.3	9.8	-6.9	30.0
706.2	10169.1	5.5	-6.7	41.0
671.5	11286.7	2.0	-7.1	51.0
644.8	12196.4	.2	-7.1	58.0
627.6	13667.8	-2.7	-7.4	70.0
604.3	14652.4	-4.1	-7.5	77.0
587.8	14769.7	-5.0	-9.6	70.0
564.2	15926.5	-6.6	-11.1	70.0
538.0	17039.1	-11.0	-12.6	68.0
532.6	17294.3	-10.7	-11.6	93.0
530.3	17404.1	-9.6	-10.1	96.0
514.3	18180.9	-11.2	-11.5	98.0
502.2	18782.6	-11.3	-11.7	97.0
499.9	18938.5	-11.7	-12.1	97.0
480.2	19910.9	-12.7	-14.3	86.0
458.8	21050.7	-15.3	-16.8	88.0
451.6	21443.8	-15.7	-16.8	91.0
440.5	21559.3	-16.8	-19.6	79.0
444.8	21818.9	-17.3	-32.1	26.0
424.4	22972.1	-19.3	-33.9	20.0
377.8	24428.9	-20.8	-35.2	26.0

STATION ALTITUDE 20951.7 FEET ASL
 LAT. 32° 40' 17.5" N
 LONG. 106° 51' 23.2" E

UPPER AIR DATA
 3120100112
 LC-37
 TABLE 7

GEODETIC COORDINATES
 32° 40' 17.5" LAT (EG)
 106° 51' 23.2" LONG (EG)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	DEWPOINT DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KILOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KILOTS	INDEX OF REFRACTION
4051.4	874.4	18.4	9.7	55.0	1041.4	666.5	160.0	1.9	1.000265
4500.0	850.5	17.5	-5.0	21.0	1029.4	664.6	205.2	4.5	1.000248
5000.0	825.3	17.5	-4.0	21.8	1011.5	664.8	212.5	7.5	1.000245
5500.0	800.3	16.4	-5.5	21.1	995.4	664.1	215.2	10.6	1.000240
6000.0	815.5	15.6	-5.6	22.6	981.9	662.7	216.9	13.8	1.000237
6500.0	801.0	14.4	-5.9	24.0	963.6	661.2	217.9	16.9	1.000234
7000.0	785.6	13.1	-6.1	25.7	955.5	659.7	215.4	16.6	1.000231
7500.0	772.4	11.8	-6.4	27.4	942.7	658.2	212.9	16.2	1.000228
8000.0	758.5	10.5	-6.7	29.1	930.0	656.7	210.7	15.9	1.000225
8500.0	744.7	9.2	-6.8	31.4	917.0	655.3	209.4	15.2	1.000222
9000.0	731.1	8.1	-6.7	34.3	903.6	654.0	208.0	14.6	1.000219
9500.0	717.7	7.0	-6.6	37.2	890.7	652.7	205.6	15.0	1.000216
10000.0	704.6	5.9	-6.7	40.0	877.9	651.4	203.4	15.9	1.000214
10500.0	691.6	4.5	-6.7	44.0	866.1	649.0	201.2	16.9	1.000211
11000.0	678.7	2.9	-6.9	48.4	854.8	647.9	197.1	19.6	1.000209
11500.0	665.1	1.6	-7.0	52.6	842.9	646.4	193.6	22.7	1.000206
12000.0	653.6	.6	-7.0	56.5	830.1	645.2	191.1	25.9	1.000203
12500.0	641.3	-0.8	-7.1	62.2	818.0	643.6	191.2	29.4	1.000201
13000.0	629.2	-2.5	-7.4	69.1	806.1	641.6	191.2	32.9	1.000198
13500.0	617.3	-3.3	-7.4	73.1	795.2	640.6	194.3	36.0	1.000195
14000.0	605.5	-4.0	-7.5	76.6	782.1	639.8	199.8	38.7	1.000192
14500.0	594.0	-4.7	-8.8	72.6	769.1	639.0	204.6	41.8	1.000188
15000.0	582.6	-5.3	-9.9	70.0	756.4	638.1	209.1	44.1	1.000184
15500.0	571.4	-6.1	-10.7	70.0	744.1	637.2	213.1	46.6	1.000180
16000.0	560.4	-7.2	-11.3	72.6	732.8	635.8	216.9	48.5	1.000177
16500.0	549.5	-9.0	-11.8	40.0	723.6	635.7	220.6	50.1	1.000175
17000.0	538.8	-10.9	-12.5	37.4	714.5	631.5	224.1	51.8	1.000172
17500.0	528.3	-9.8	-10.3	96.2	697.4	632.8	228.4	52.5	1.000171
18000.0	518.0	-10.8	-11.1	97.5	688.0	631.6	232.6	53.4	1.000167
18500.0	507.8	-11.3	-11.6	97.5	674.3	631.1	235.7	54.3	1.000164
19000.0	497.9	-11.8	-12.3	96.1	662.5	630.4	238.1	54.4	1.000161
19500.0	488.1	-12.3	-13.4	91.7	650.7	629.7	236.6	54.5	1.000157
20000.0	478.5	-12.9	-14.5	88.0	639.5	629.0	236.7	54.6	1.000154
20500.0	469.0	-14.0	-15.6	88.0	629.7	627.6	236.3	54.9	1.000151
21000.0	459.7	-15.2	-16.7	88.0	620.0	626.1	235.6	55.1	1.000148
21500.0	450.6	-16.2	-18.1	85.2	610.2	624.6	235.4	56.0	1.000144
22000.0	441.5	-17.6	-32.4	26.0	601.7	622.9	236.6	57.9	1.000136
22500.0	432.6	-18.5	-33.2	26.0	591.0	621.6	237.0	59.6	1.000134
23000.0	423.9	-19.3	-33.9	26.0	581.0	620.6			1.000132
23500.0	415.3	-19.8	-34.4	26.0	571.0	620.1			1.000129

STATION ALTITUDE 4651.37 FT T L SL
 R NOV. 52 1301 HRS 451
 ASCENDING NO. 112

UPPER AIR DATA
 7120160112

LC-37

TABLE 7 Cont'd

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA DIRECTION SPEED KNOTS	INDEX OF REFRACTION
24000.0	400.0	-20.4	26.0	560.0	619.0		1.000127

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

MANDATORY LEVELS
3120180112
LC-37

TABLE 8

STATION ALTITUDE 4051.37 FEET MSL
R. 20V. -2
ASCESSION NO. 112
1300 HRS VST

PRESSURE EQUIVALENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4941.	17.4	22.	210.8	6.5
800.0	6530.	14.3	24.	217.7	10.9
750.0	8302.	9.7	30.	209.9	15.5
700.0	10167.	5.5	41.	202.0	16.3
650.0	12135.	.3	56.	191.1	20.9
600.0	14221.	-4.3	75.	202.1	40.1
550.0	16458.	-9.0	80.	220.4	50.0
500.0	18867.	-11.7	97.	230.0	54.4
450.0	21409.	-16.5	82.	230.0	56.1
400.0	24376.	-20.8	20.		

GEODETIC COORDINATES
32.40043 LAT DEG
106.57033 LON DEG

SIGNIFICANT LEVEL DATA
3120020540
WHITE SANDS
TABLE 9

STATION ALTITUDE 3089.0 FEET MSL
8 NOV. 62 1300 HRS MST
ASCENSION NO. 548

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
876.1	3089.0	19.5	1.0	29.0
850.0	4839.7	17.6	-2.6	25.0
821.8	5781.8	15.3	-2.2	30.0
765.1	7752.3	10.0	-3.0	40.0
721.4	9345.8	5.5	-4.3	49.0
706.3	9912.9	4.0	-4.2	55.0
700.0	10152.2	3.5	-5.7	51.0
683.3	10795.5	2.8	-9.1	41.0
674.3	11147.8	2.1	-7.7	48.0
641.4	12467.9	-1.2	-6.7	66.0
623.8	13197.7	-1.2	-10.0	51.0
612.4	13680.7	-2.0	-11.3	49.0
586.5	14804.1	-5.1	-12.3	57.0
546.6	16606.6	-10.7	-11.6	93.0
538.7	16975.2	-10.6	-10.9	98.0
525.6	17598.0	-11.3	-11.6	98.0
518.0	17966.2	-11.1	-11.4	98.0
500.0	1857.5	-12.8	-12.9	99.0
485.7	19585.8	-13.2	-15.5	83.0
478.5	19959.7	-14.0	-17.1	77.0
457.0	21102.9	-16.7	-18.5	86.0
448.3	21576.8	-18.2	-25.8	51.0
438.7	22108.6	-18.4	-32.7	27.0
429.2	22646.1	-18.4	-32.7	27.0
414.6	23493.8	-19.7	-33.5	28.0
400.0	24365.5	-22.1	-35.0	28.0

STATION ALTITUDE 3989.00 FEET MSL
8 NOV. 82
ASCENSION NO. 548

UPPER AIR DATA
3120020548
WHITE SANDS
TABLE 10

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) SPEED KNOTS	INDEX OF REFRACTION
3989.0	876.1	19.5	1.0	29.0	1039.9	667.4	190.0	1.000261
4000.0	875.8	19.5	1.0	28.9	1039.6	667.4	190.5	1.000261
4500.0	860.3	18.4	-1.2	26.6	1025.6	660.0	211.9	1.000254
5000.0	845.1	17.2	-2.5	25.9	1011.7	664.0	226.8	1.000248
5500.0	830.1	16.0	-2.2	28.5	997.8	663.2	230.0	1.000246
6000.0	815.3	14.7	-2.2	31.1	984.3	661.8	227.9	1.000243
6500.0	800.7	13.4	-2.3	33.6	971.1	660.2	221.6	1.000240
7000.0	786.3	12.0	-2.5	36.2	958.2	658.7	216.8	1.000237
7500.0	772.1	10.7	-2.8	38.7	945.4	657.1	213.7	1.000234
8000.0	758.1	9.3	-3.1	41.4	932.8	655.5	210.0	1.000231
8500.0	744.3	7.9	-3.5	44.2	920.4	653.9	205.8	1.000228
9000.0	730.7	6.5	-4.0	47.0	908.1	652.2	203.5	1.000224
9500.0	717.3	5.1	-4.3	50.6	895.9	650.6	199.9	1.000221
10000.0	704.0	3.8	-4.7	53.5	883.4	649.1	194.5	1.000218
10500.0	690.9	3.1	-7.5	45.6	869.6	648.2	189.7	1.000211
11000.0	678.1	2.4	-8.3	45.1	855.7	647.3	189.7	1.000207
11500.0	665.4	1.2	-7.3	52.8	843.1	645.9	191.4	1.000206
12000.0	652.9	-0.0	-6.9	59.6	831.0	644.5	194.7	1.000204
12500.0	640.6	-1.2	-6.9	65.3	818.9	643.1	199.1	1.000201
13000.0	628.5	-1.2	-9.0	55.1	803.6	643.0	207.6	1.000195
13500.0	616.6	-1.7	-10.8	49.7	790.1	642.4	212.9	1.000190
14000.0	604.9	-2.9	-11.5	51.3	778.5	641.0	215.0	1.000187
14500.0	593.4	-4.3	-12.0	54.8	767.6	639.3	214.5	1.000184
15000.0	582.0	-5.7	-12.0	60.9	756.9	637.0	214.9	1.000182
15500.0	570.8	-7.3	-11.6	70.9	746.6	635.8	218.4	1.000180
16000.0	559.7	-8.8	-11.5	80.9	736.4	633.9	221.3	1.000178
16500.0	548.9	-10.4	-11.6	90.9	726.4	632.1	223.8	1.000176
17000.0	538.2	-10.6	-10.9	98.0	712.8	631.8	228.2	1.000173
17500.0	527.6	-11.2	-11.4	98.0	700.4	631.1	232.3	1.000170
18000.0	517.3	-11.2	-11.4	98.0	686.6	631.2	236.3	1.000167
18500.0	507.1	-12.1	-12.3	98.6	675.6	630.0	236.8	1.000164
19000.0	497.2	-12.9	-13.4	95.9	664.3	629.0	236.3	1.000160
19500.0	487.4	-13.2	-15.1	84.9	652.1	628.0	235.7	1.000156
20000.0	477.7	-14.1	-17.2	77.3	641.6	627.4	235.8	1.000152
20500.0	468.2	-15.3	-17.7	81.3	631.7	626.0	236.5	1.000149
21000.0	458.9	-16.5	-18.3	85.2	622.0	624.5	237.4	1.000147
21500.0	449.7	-18.0	-24.4	56.7	613.5	622.6	238.2	1.000142
22000.0	440.6	-18.4	-31.0	31.9	602.2	622.0	238.8	1.000137
22500.0	431.8	-18.4	-32.7	27.0	590.2	621.9	237.8	1.000134
23000.0	423.0	-18.9	-33.0	27.4	579.5	621.2		1.000131

STATION ALTITUDE 3989.00 FEET MSL
 8 NOV. 82 1300 HRS PST
 ASCENSION NO. 548

UPPER AIR DATA
 3120020540
 WHITE SANDS
 TABLE 10 Cont'd

GEOMETRIC ALTITUDE MSL FEET PRESSURE MILLIBARS TEMPERATURE AIR DEGREES DEWPOINT DEGREES CENTIGRADE REL. HUM. PERCENT DENSITY GM/CUBIC METER SPEED OF SOUND KNOTS WIND DATA DIRECTION DEGREES (TN) SPEED KNOTS INDEX OF REFRACTION

23500.0	414.5	-19.7	-33.5	28.0	569.6	620.3			1.000129
24000.0	400.1	-21.1	-34.7	28.0	561.0	618.6			1.000127

STATION ALTITUDE 3989.00 FEET MSL
 1300 HRS MST
 ASCENSION NO. 548

MANDATORY LEVELS
 3120020546
 WHITE SANDS
 TABLE II

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION (DEGREES (TN))	SPEED KNOTS
850.0	4836.	17.6	-2.6	25.	222.6	13.2
800.0	6522.	13.3	-2.3	34.	221.3	11.3
750.0	8208.	8.5	-3.4	43.	207.5	13.6
700.0	10142.	3.5	-5.7	51.	192.6	17.9
650.0	12105.	-3	-6.9	61.	195.8	33.5
600.0	14197.	-3.5	-11.7	53.	214.9	42.1
550.0	16428.	-10.2	-11.5	90.	223.5	50.7
500.0	18831.	-12.8	-12.9	99.	236.4	54.1
450.0	21451.	-17.9	-24.1	58.	238.1	59.3
400.0	24325.	-22.1	-35.6	28.		

STATION ALTITUDE 4051.77 FEET MSL
 W. LONG. 121° 14' 50" W
 ASSUMED LONG. 113

SIGNIFICANT LEVEL DATA
 3120160113
 LC-37
 TABLE 12

GEODETIC COORDINATES
 32°40'17" LAT DEG
 106°51'23" LONG DEG

PRESSURE GEODETIC ALTITUDE MILLIBARS	GEODETIC ALTITUDE FEET	TEMPERATURE AIR DEW POINT DEGREES CENTIGRADE	REL. HUM. PERCENT
673.2	4051.4	21.3	-0.1
667.2	4246.4	19.2	-1.8
640.6	4822.7	17.5	-1.7
602.2	6022.2	14.1	-3.2
740.8	8276.0	9.0	-3.5
700.5	9811.0	6.3	-8.0
690.5	10154.9	5.5	-8.7
674.8	11117.4	3.6	-9.4
634.4	12751.5	-0.9	-8.3
615.6	13529.6	-3.4	-5.7
607.0	13903.8	-4.1	-5.3
585.2	14851.1	-5.5	-7.2
577.4	15197.6	-5.7	-7.4
575.0	15304.6	-6.9	-8.4
557.7	16010.6	-8.6	-10.1
546.0	16629.5	-8.3	-9.9
543.1	16732.9	-7.2	-8.8
510.7	17036.8	-10.2	-12.4
508.5	18442.8	-10.0	-12.5
494.6	18479.6	-11.6	-14.3
472.7	20279.9	-13.9	-16.7
476.6	20391.3	-13.9	-16.7
450.1	21008.1	-15.5	-16.4
450.7	21466.0	-16.6	-19.7
445.4	21730.8	-16.7	-20.9
432.1	22507.4	-17.2	-30.8
423.6	22996.5	-18.3	-31.5
390.6	24419.6	-21.8	-34.0

STATION ALTITUDE 4951.77 FEET MSL
E NOV. 82 1415 HRS PST
ASCENSION NO. 113

UPPER AIR DATA
3120180113
LC-37
TABLE 13

GEODETIC COORDINATES
32.40175 LAT DEG
106.51232 LONG DEG

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TH) SPEED KNOTS	INDEX OF REFRACTION
4051.4	873.2	21.3	24.0	1030.4	669.4	140.0	1.000256
4500.0	859.4	18.5	25.3	1024.3	660.0	156.9	1.000252
5000.0	844.2	17.1	27.3	1010.7	664.5	168.9	1.000249
5500.0	829.2	16.1	28.3	996.5	663.3	196.7	1.000245
6000.0	814.4	15.0	29.2	982.4	662.1	214.1	1.000242
6500.0	799.9	13.9	30.5	968.0	660.0	224.3	1.000238
7000.0	785.5	12.5	33.4	953.7	659.2	220.7	1.000235
7500.0	771.3	11.1	36.4	942.9	657.0	216.0	1.000233
8000.0	757.4	9.8	39.4	930.4	650.0	210.6	1.000230
8500.0	743.6	8.6	40.1	917.3	654.7	203.5	1.000226
9000.0	730.1	7.7	38.2	903.6	653.0	202.7	1.000221
9500.0	716.7	6.8	36.2	890.0	652.5	202.0	1.000216
10000.0	703.5	5.9	35.0	876.9	651.3	201.4	1.000211
10500.0	690.5	4.8	36.1	864.0	650.1	205.3	1.000208
11000.0	677.8	3.8	37.6	851.0	648.9	208.6	1.000205
11500.0	665.1	2.5	42.4	838.9	647.4	212.0	1.000202
12000.0	652.7	1.2	48.3	827.3	645.8	215.4	1.000200
12500.0	640.5	-.2	54.1	815.9	644.2	218.3	1.000198
13000.0	628.4	-1.7	65.6	804.7	642.5	220.3	1.000197
13500.0	616.5	-3.3	83.0	793.9	640.7	221.2	1.000198
14000.0	604.8	-4.2	90.7	781.5	639.7	221.9	1.000195
14500.0	593.2	-5.0	89.1	768.7	638.7	221.7	1.000191
15000.0	581.8	-5.6	88.0	755.8	638.0	221.3	1.000187
15500.0	570.6	-7.2	89.0	745.9	636.0	222.1	1.000183
16000.0	559.6	-8.0	89.0	733.7	635.0	225.2	1.000180
16500.0	548.8	-8.5	88.6	720.9	634.4	228.6	1.000176
17000.0	538.1	-7.9	87.1	708.2	633.2	231.0	1.000173
17500.0	527.7	-9.1	85.5	694.9	633.0	233.4	1.000169
18000.0	517.5	-10.2	83.8	684.3	632.3	234.6	1.000165
18500.0	507.4	-10.2	81.7	671.0	632.3	233.7	1.000162
19000.0	497.4	-11.8	79.9	662.0	630.3	232.9	1.000158
19500.0	487.6	-12.6	79.6	651.1	629.3	232.4	1.000155
20000.0	478.0	-13.4	79.2	640.3	628.3	232.3	1.000152
20500.0	468.6	-14.2	78.8	629.5	627.3	232.2	1.000149
21000.0	459.2	-15.5	78.0	620.2	625.7	232.2	1.000146
21500.0	450.1	-16.0	76.1	610.5	624.3	232.9	1.000143
22000.0	441.1	-16.9	56.1	599.1	623.9	232.9	1.000139
22500.0	432.2	-17.2	30.4	588.0	623.4	233.5	1.000134
23000.0	423.5	-18.3	30.0	578.0	622.0		1.000131
23500.0	414.0	-19.5	30.7	569.8	620.5		1.000129

STATION ALTITUDE 4051.97 FT FMSL
 8000.00 FT
 ASCESSION NO. 113

1415.00, 1415.00

UNPLP AIR DATA
 3120100113
 LC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.51252 LONG DEG

TABLE 13 Cont'd

GEODETIC ALTITUDE FMSL	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL. HUMIDITY PERCENT	DENSITY GM/CM ³	SPEED OF SOUND M/SEC	WIND DATA DIRECTION SPEED KNOTS	INDEX OF REFRACTION
2000.00	900.5	-10.0	31.4	560.9	619.0		1.000127

STATION ALTITUDE 4051.37 FEET - SL
 R 000.00
 ASCEP5100.10. 113

TEMPERATURE LEVELS
 3120180110
 LC-27

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LON DEG

TABLE 14

PRESSURE (GEOPOTENTIAL)		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
1500.0	4406.	17.5	-1.7	27.	150.7	4.4
1000.0	6403.	13.9	-3.2	30.	224.2	0.7
750.0	8262.	9.0	-3.5	41.	207.7	14.2
700.0	10126.	5.5	-8.7	35.	202.3	24.3
650.0	12009.	.9	-8.5	50.	210.1	32.3
600.0	14108.	-4.5	-5.9	90.	222.0	44.2
550.0	16422.	-8.6	-10.1	89.	226.3	38.2
500.0	18843.	-11.6	-14.3	80.	233.1	46.9
450.0	21472.	-16.6	-19.6	76.	232.9	50.2
400.0	24355.	-21.7	-33.9	32.		

STATION ALTITUDE 3499.00 FEET
 R NOV. 12
 ASCENSION 10. 349

SIGNIFICANT LEVEL DATA
 3120020349
 WHITE SANDS
 TABLE 15

STATION ALTITUDE 3499.00 FEET
 R NOV. 12
 ASCENSION 10. 349

PRECIPITATION MILLIMETERS	GEOGRAPHIC ALTITUDE FEET	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT
875.0	3989.0	20.8	1.1
850.0	4004.4	19.7	.2
700.0	10165.2	6.0	-5.9
653.5	11798.4	1.9	-8.2
593.3	14524.3	-6.0	-11.3
580.7	14912.4	-6.3	-11.8
574.9	15111.7	-7.5	-11.5
571.5	15485.1	-8.2	-11.2
555.1	16229.7	-8.0	-9.7
506.0	18883.3	-12.2	-12.3
485.0	19647.8	-13.8	-17.3
467.2	20578.9	-16.1	-19.3
462.7	20818.5	-16.7	-19.3
443.6	21859.8	-17.2	-31.7
400.0	24386.2	-22.4	-37.8

STATION ALTITUDE 3939.00 FEET MSL
 8 NOV. 82 1500 HRS MST
 ASCENSION NO. 349

UPPER AIR DATA
 3120020349
 WHITE SANDS
 TABLE 16

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KILOMETERS PER SECOND	WIND SPEED KILOMETERS PER HOUR	INDEX OF REFRACTION
3989.0	873.0	20.8	27.0	1034.0	668.9	115.0	1.000260
4000.0	874.7	20.8	27.0	1033.7	668.9	115.2	1.000259
4500.0	859.3	20.1	27.0	1017.9	668.1	128.1	1.000255
5000.0	844.1	19.2	27.5	1003.1	667.0	140.0	1.000251
5500.0	829.1	17.9	28.9	989.4	663.0	167.5	1.000247
6000.0	814.1	16.7	30.3	976.0	664.1	180.2	1.000243
6500.0	799.5	15.4	31.7	962.7	662.0	200.2	1.000240
7000.0	783.1	14.1	33.1	949.7	661.1	208.1	1.000236
7500.0	771.0	12.8	34.5	936.9	659.0	209.5	1.000232
8000.0	757.2	11.5	35.9	924.3	658.1	210.0	1.000229
8500.0	743.6	10.3	37.3	911.8	656.0	211.0	1.000225
9000.0	730.2	9.0	38.7	899.6	655.1	212.9	1.000222
9500.0	717.1	7.7	40.1	887.5	653.0	214.0	1.000218
10000.0	704.2	6.4	41.5	875.0	652.1	215.5	1.000214
10500.0	691.3	5.2	43.0	863.5	650.0	218.4	1.000211
11000.0	678.5	3.9	44.6	851.4	649.1	222.2	1.000207
11500.0	665.9	2.6	46.1	839.5	647.0	229.9	1.000204
12000.0	653.4	1.3	48.4	827.8	646.0	229.9	1.000201
12500.0	641.1	-0.1	51.9	816.5	644.3	232.5	1.000198
13000.0	628.9	-1.6	55.4	805.3	642.0	235.1	1.000195
13500.0	617.0	-3.0	58.9	794.3	640.8	236.3	1.000192
14000.0	605.3	-4.5	62.3	783.5	639.1	237.3	1.000189
14500.0	593.9	-5.9	65.8	772.9	637.4	238.0	1.000186
15000.0	582.4	-7.1	70.0	761.2	636.0	239.9	1.000183
15500.0	571.2	-8.2	74.9	749.7	634.7	241.8	1.000181
16000.0	560.1	-9.1	79.3	738.0	634.9	243.5	1.000180
16500.0	549.2	-8.4	90.1	721.2	634.3	242.3	1.000177
17000.0	538.5	-9.2	96.2	709.3	633.0	240.8	1.000174
17500.0	528.0	-10.0	96.9	697.0	632.0	238.8	1.000171
18000.0	517.7	-10.8	97.7	686.1	631.0	237.5	1.000167
18500.0	507.6	-11.6	98.4	674.8	630.0	236.0	1.000164
19000.0	497.7	-12.4	95.3	663.9	629.0	234.4	1.000160
19500.0	487.9	-13.5	79.6	653.7	628.2	232.2	1.000155
20000.0	478.2	-14.7	75.4	643.7	626.7	230.0	1.000152
20500.0	468.7	-15.9	75.9	634.0	625.2	229.0	1.000149
21000.0	459.3	-16.8	70.8	623.0	624.1	228.4	1.000146
21500.0	450.1	-17.0	45.3	611.8	623.7	229.2	1.000140
22000.0	441.1	-17.5	26.8	600.8	623.0	230.0	1.000136
22500.0	432.1	-18.5	26.0	591.0	621.0	230.7	1.000134
23000.0	423.4	-19.5	25.2	581.4	620.5	231.3	1.000131

STATION ALTITUDE 3989.0 FT. 1.5L
 A. NOV. 82 1500 HRS. 51
 ACQUISITION NO. 500

UPPER AIR DATA

3120020549

WHITE SANDS

TABLE 16 Cont'd

GEODETIC COORDINATES
 32°4004.3 LAT DEG
 106°3703.3 LONG DEG

GEOMETRIC ALTITUDE FSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
25000.0	414.8	-20.6	24.4	571.9	619.2			1.000129
24000.0	400.4	-21.6	23.6	562.7	616.0			1.000127

STATION ALTITUDE 3989.00 FEET MSL
 A. 10V. 82 1500 HRS EST
 ASCENDING 110. 549

NAVIGATORY LEVELS
 3123020545
 WHITE SANDS

TABLE 17

GEODETIC COORDINATES
 32-40043 LAT DEG
 106-37033 LON DEG

PRESSURE (GEOPOTENTIAL)		TEMPERATURE		REL. HUMID. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION DEGREES (TN)	SPEED KNOTS
650.0	4000.	19.7	.2	27.	130.5	9.0
600.0	5504.	15.4	-1.3	32.	200.4	9.0
750.0	8234.	10.9	-3.3	37.	211.4	10.5
700.0	10155.	6.0	-5.9	42.	215.9	34.6
650.0	12129.	.2	-8.3	49.	230.7	37.9
600.0	14218.	-5.1	-10.9	64.	237.9	30.2
550.0	16445.	-8.4	-9.0	95.	242.4	42.7
500.0	18657.	-12.2	-12.3	99.	234.9	44.9
450.0	21473.	-17.0	-26.1	45.	229.2	55.6
400.0	24346.	-22.4	-37.8	23.		

2-8

DT